

FIG. 1

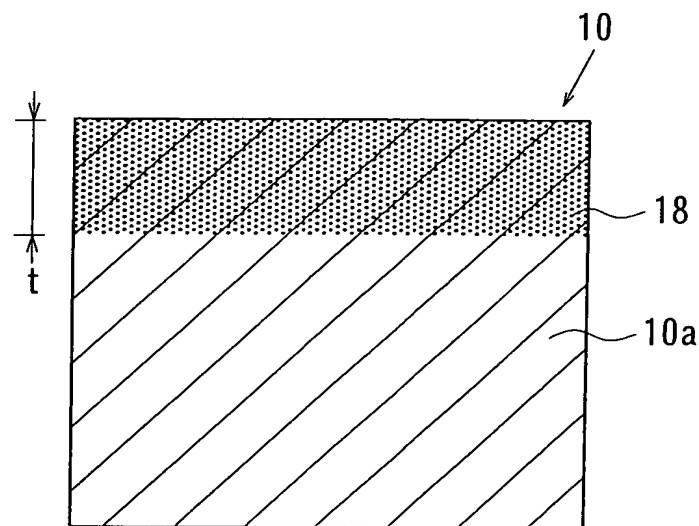


FIG. 2

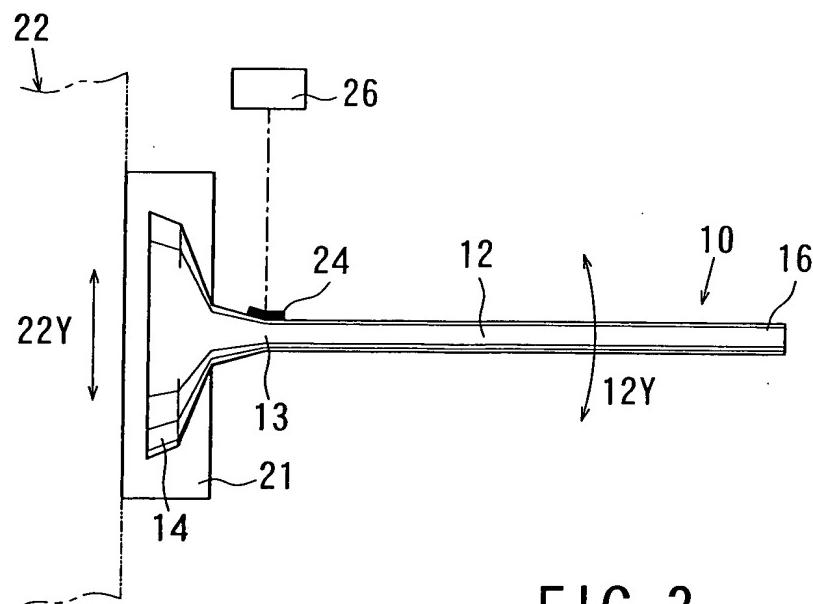


FIG. 3

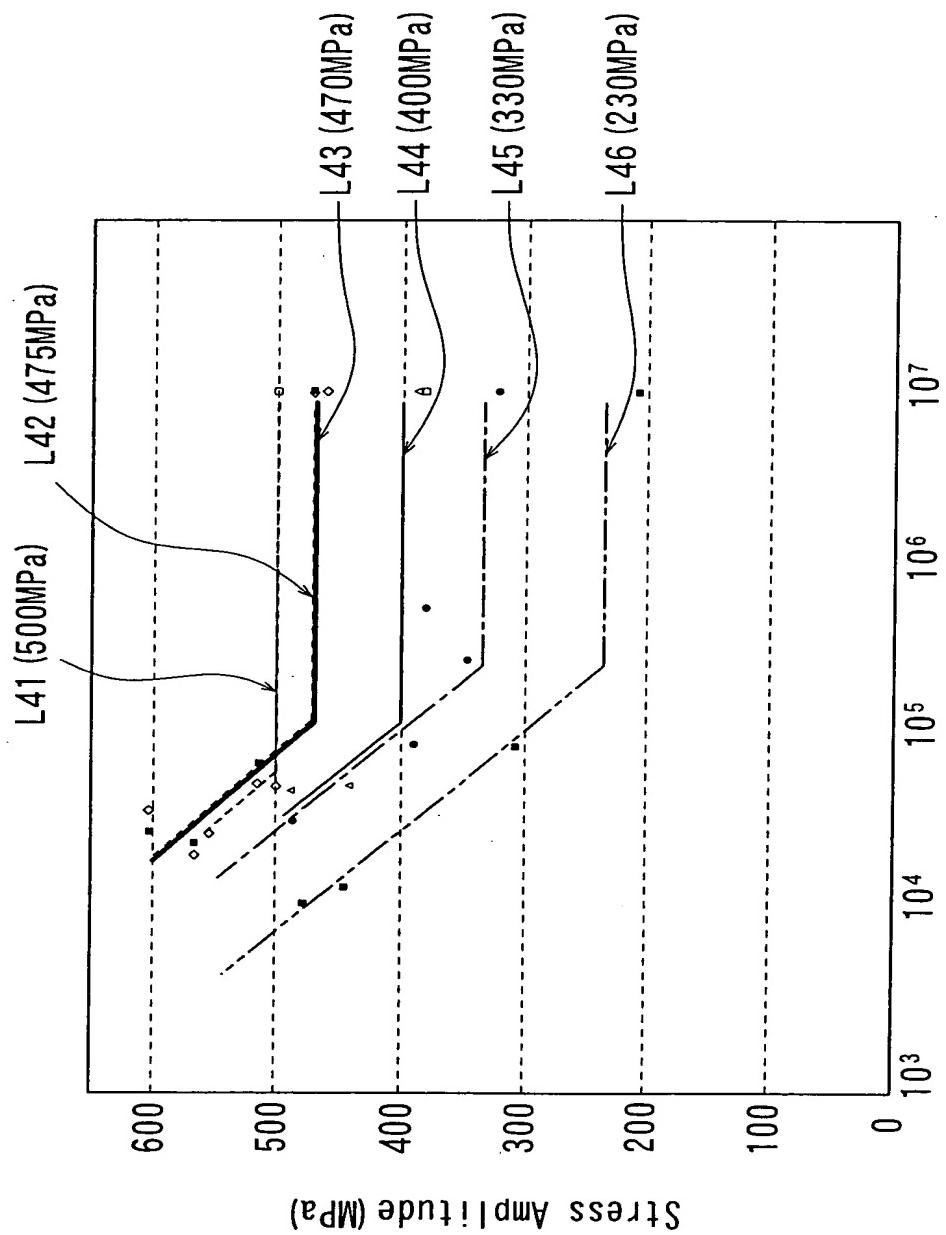
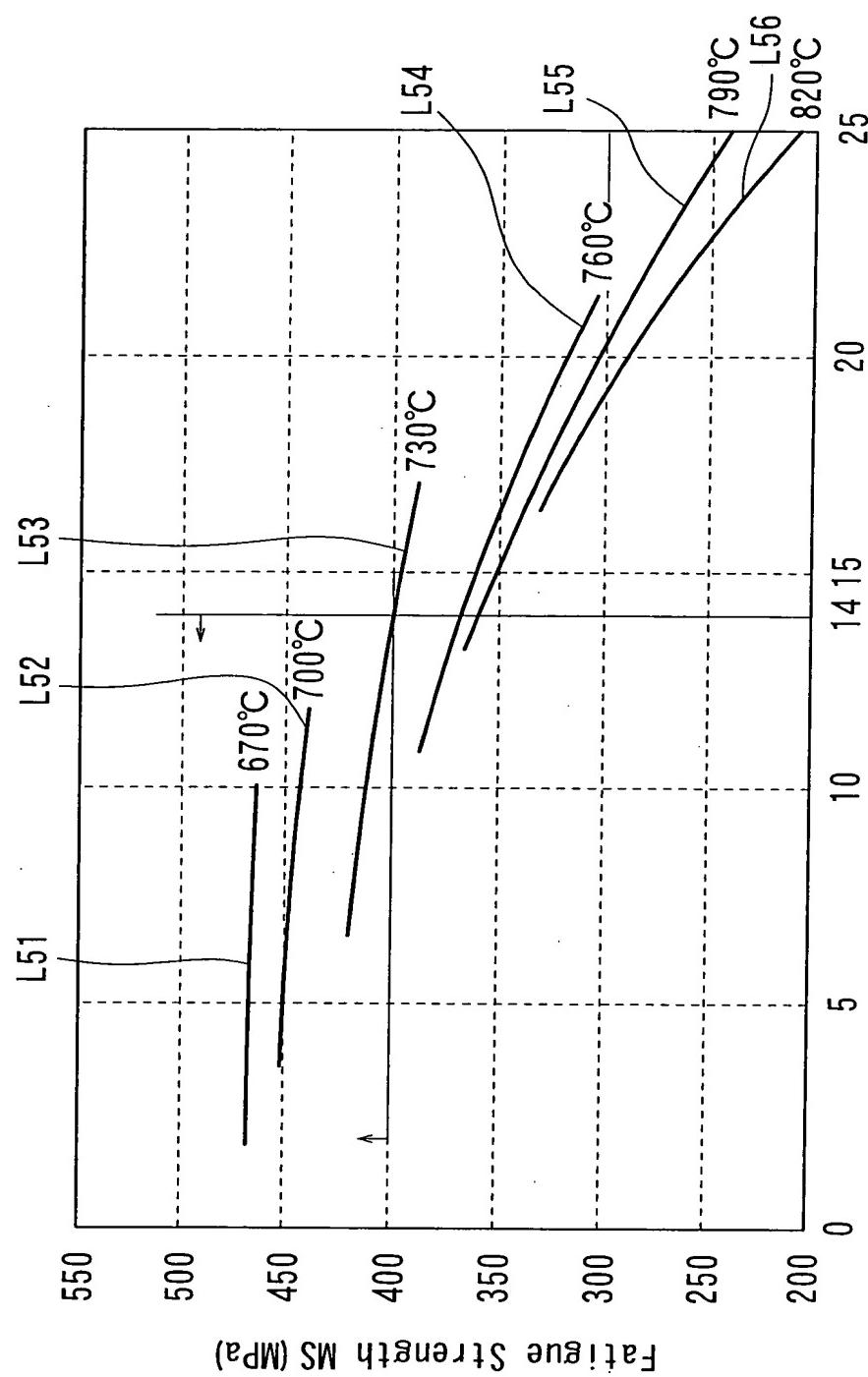


FIG. 4

Repeat Count of Vibration (Cycle)



Thickness  $t$  of Hard Oxide Film (Micrometer)

FIG. 5

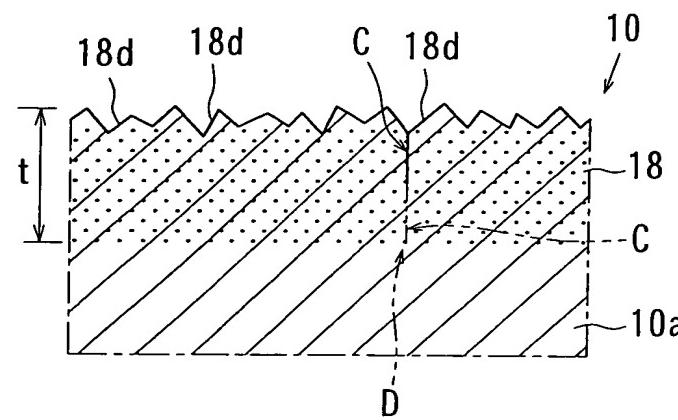


FIG. 6

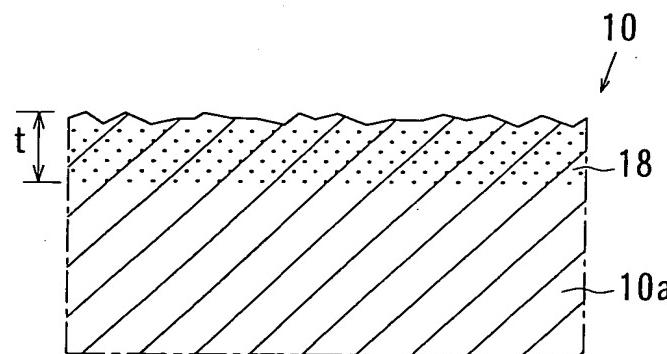


FIG. 7

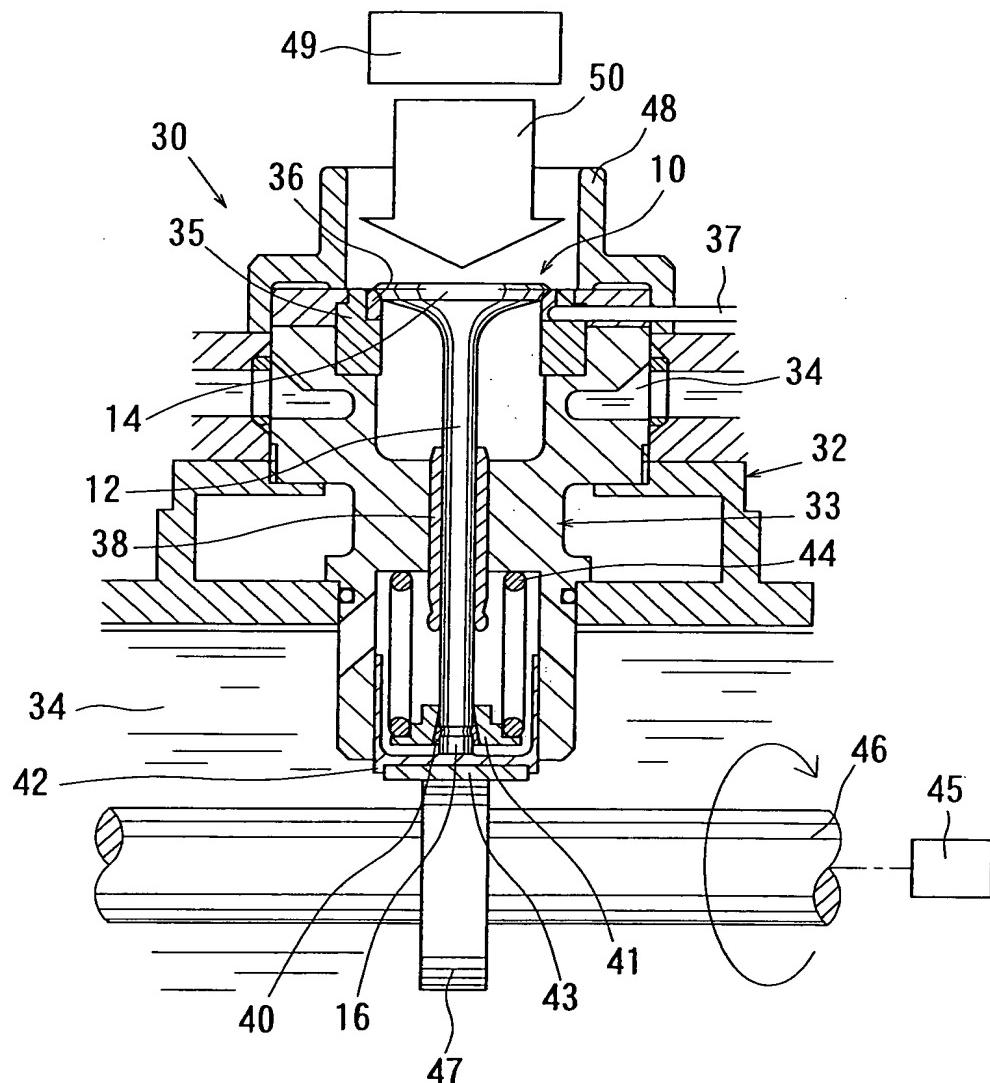
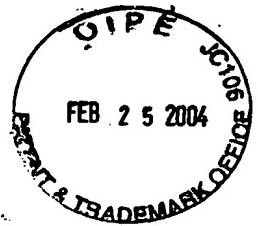


FIG. 8

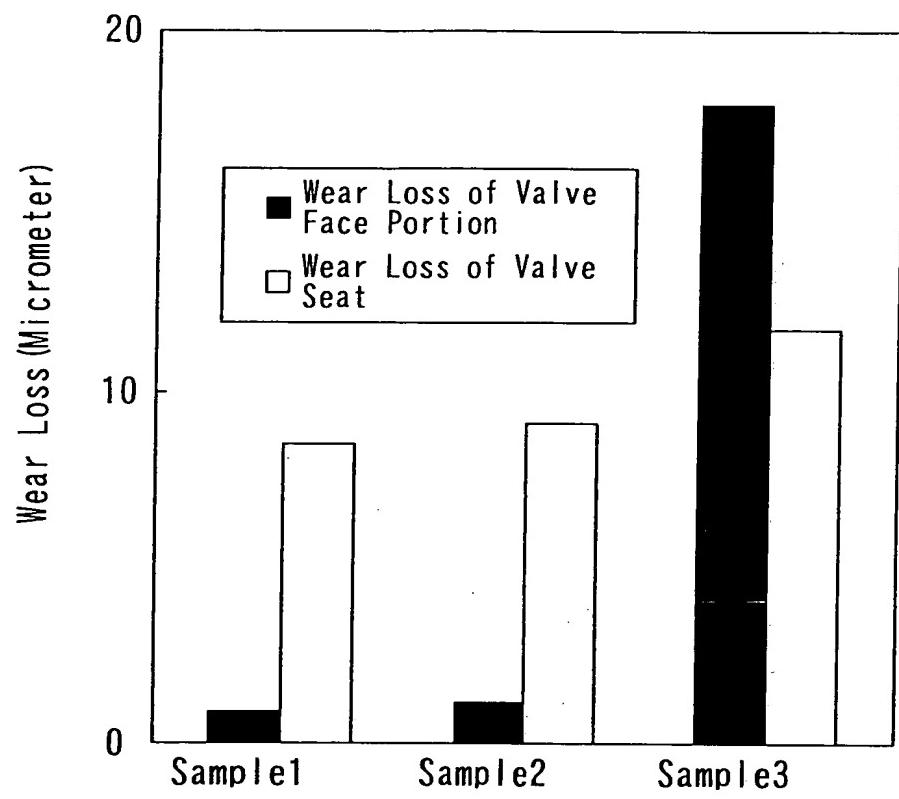


FIG. 9

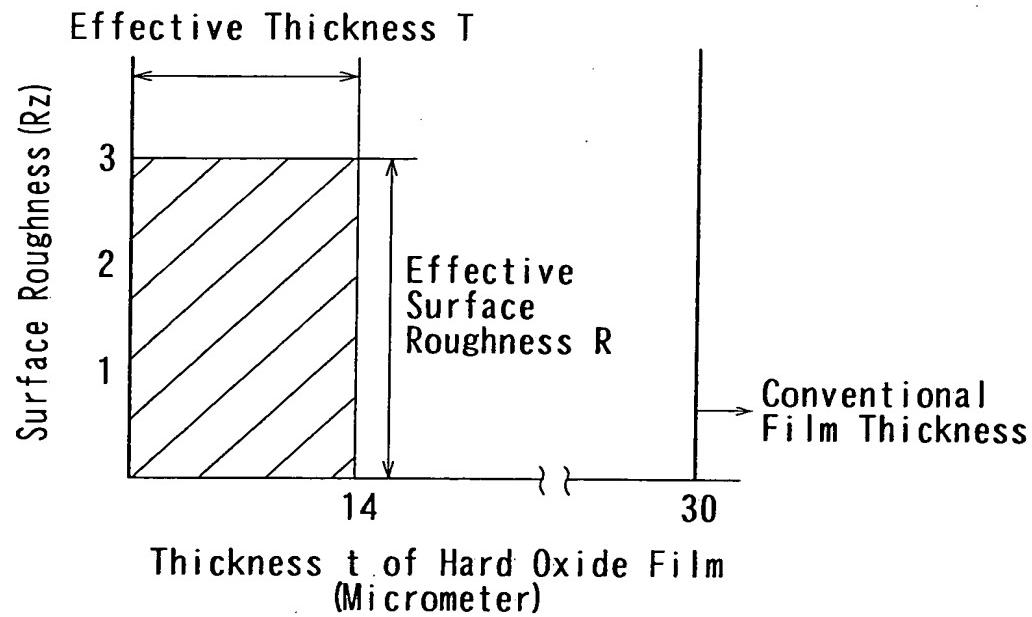


FIG. 10